

# REEF NOTES



Reef Environmental Education Foundation  
Protecting Marine Life Through Education, Service and Research

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## What's Happening Now?

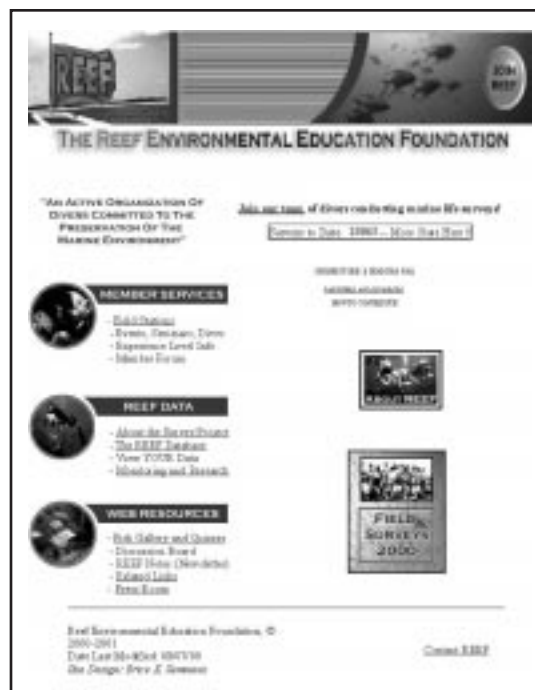


### MOVING INTO THE NEW MILLENIUM REEF.org Gets a New Look

REEF is proud to announce the launch of its brand new website! This complete revision of our online home has been under development for the past several months and we are excited that it has finally come to fruition. The Internet has always been at the core of REEF's Fish Survey Project providing on-line access to data summaries. With faster and more intuitive access to data information and a host of other resources, our online presence is now at the next level.

As part of the online revision, REEF's inimitable data management system and database received a complete overhaul by Dr. Michael Coyne of NOAA's Biogeography Office. Michael has enabled REEF HQ to more efficiently process incoming scanforms, improving the quality control programs to catch more errors at the beginning of processing and decreasing the time between the receipt and posting of data to the web. By redesigning the data reporting interfaces, Michael expanded the flexibility and query options of the database enabling more on-the-fly reports. Visitors now have more display options and can generate standard reports such as member lifelists, regional species lists, and species-specific sighting information by date. Comparison reports between sites and times have also been added. In response to data requests by scientists, resource managers, and conservation groups, an administrative query interface was added enabling REEF HQ to rapidly generate custom data sets. This is particularly important, as REEF's database is rapidly becoming the most comprehensive set of information on fishes in our three project areas.

*website continued on page 3*



### Sign up for the REEF Member Listserv and Join us in the Cyber World!

In an effort to distribute timely REEF announcements and special opportunities, REEF has created a post-only mail service. To subscribe, send an email to [listserv@reef.org](mailto:listserv@reef.org). In the subject line type "subscribe", and in the body of the email type "subscribe yourname" replacing your name with your first and last name (with no space inbetween). Please do not use quotation marks.

# Director's Corner

Leaps and Bounds. That old phrase captures the essence of REEF's activities over these last months. It seems that every third phone call is another request for our services or an opportunity for expansion and collaboration.

Beginning this fall, REEF will be working in Puerto Rico and the USVI in partnership with the Center for Marine Conservation and NOAA. Working with a coalition of groups and government agencies called the Coral Reef Network, REEF's expansion program to Hawaii will get underway, and our partnership with the Florida Fish and Wildlife Conservation Commission to train teams to monitor Florida's artificial reefs continues. We've been asked by the Cozumel Marine Park biologists to train staff and implement ongoing monitoring in the park. We're working in coordination with the Bermuda Zoological Society and Bermuda Biological Station to set up monitoring programs in the northernmost coral reef area in the hemisphere. Our West Coast partnership with the Living Oceans Society has expanded into a pilot program to monitor invertebrates. The list goes on and on.

In addition to these expanded program opportunities, the newly energized focus on Marine Protected Areas and their effectiveness as management tools has made the REEF Fish Survey Project and data even more important. We have spent the past year working very closely with staff at NOAA headquarters to redesign the REEF database allowing more flexibility in reporting. This huge process also resulted in the redesigning of the REEF website for a more functional and accessible interface. One of today's leading technologies incorporates Geographic Information Systems (GIS) mapping technology to overlay data onto computer based maps. REEF now has the training and equipment to use this extremely powerful tool, both on the website and in high level analysis of fish survey data, highly sought after by scientists and managers. As a result, Dr. Christy Semmens is working overtime to write scientific papers based on the valuable database to which you've all contributed. Christy has authored and co-authored numerous papers presented at scientific symposiums including four papers at the prestigious International Coral Reef Symposium in Bali.

Finally, before I let you browse through the latest REEFNotes, a few contributions that are making the production of this newsletter possible bear mention. Knowing the great expense REEF incurs in producing, printing and mailing each issue of this newsletter, Advisory Board member Anne Walton called a former associate in the printing business. The result? The Neilsen Company in Kentucky now donates the printing of each issue of REEFNotes! The huge saving this represents now enables us to put these valuable funds into other programs. Many of you may have similar contacts in business industries that are interested in supporting REEF's important work. If you see a way to help, please don't hesitate to call us. These partnerships are a great benefit to REEF and to the marine environment we are working to protect.

Also, best of luck to Denise Mizell who is now in San Francisco after a cross country family move. We're sure Denise will be terrorizing the Pacific fish and sending in lots of surveys from "out west".

Laddie Akins



Executive Director

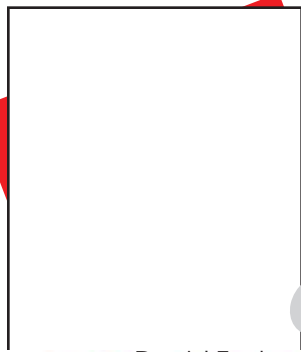


# REEF NOTES

## New board member joins REEF

REEF received a bolt of enthusiasm and adrenaline this summer with the addition of new Board of Trustees member, David Taylor. David Taylor is the executive editor of Rodale's Scuba Diving magazine, a position he has held since 1995. Before then he was an associate professor of English and Journalism at Moravian College in Bethlehem, Pennsylvania. As an editor at Rodale Press, Inc., one of David's missions is to sensitize his readers to the key issues facing the marine environment and to galvanize those readers to action. In the past, RSD has supported ballot initiatives in Florida, awarded the Rodale Environmental Achievement Award to REEF, and has sponsored successful online petitions for Bonaire, Galapagos, Bahamas, Aruba, and the current fish-feeding controversy in Florida. David reports, "At Rodale, our view of business and the environment is very simple: some companies are in business to make money. We make money in order to protect Planet Earth and help the people who live on it to be healthier and happier."

David has had first hand opportunities to travel the world looking at environmental conditions and policies and their effects on our oceans. He realized long ago that divers can be the solution to major problems facing the marine environment such as overfishing, pollution, and poorly planned development. His editorial column in each issue of Rodale's reflects the forward thinking concept that we have not only the ability, but the responsibility to focus on the real issues of degradation. As we have more educated divers looking and reporting on these conditions, the more protected our marine environment will become. David's connections, foresight and enthusiasm on the Board will help energize REEF, and bring new opportunities in the dive industry as we grow. Welcome David!



David Taylor



## website news cont.

One of the other highlights of the new website is the REEF Member Forum, a dynamic area with revolving features that include a Fish of the Month, Field Survey Log Book, Mystery Fish Board, Favorite Fish Spots, and Member Articles. The Forum is an area where active surveyors can exchange fish tales and new REEF members can gain a sense of what being a fishwatcher is all about. Part of the Forum's success will be up to you, our members. Please consider writing an article on a favorite fish surveying spot, a great fish find, an identification tip or anything else that you think might interest your fellow fishwatchers!

Other new and exciting features of the website include:

- The REEF Store - purchase survey materials, REEF gear, and books via a secure link
- Contributors Corner - make online contributions through a secure link
- Research and Monitoring - project summaries and links to papers published using REEF data
- REEF Partners and Sponsors
- Quizzes and galleries highlighting the Pacific Coast and Gulf of California
- Events Page - lists ongoing and special events, and survey opportunities
- Basic Stats - continually updated with total surveys in each area, top ten sites by species richness, top ten most frequent fish in each area, and the top ten most active surveyors in each area.

Over the next several months and year, we will continue to add increased functionality to the database reporting and provide graphical displays and maps of the data. If you haven't checked it out already, visit REEF at [www.reef.org](http://www.reef.org). We hope you enjoy the new site and welcome any comments you may have.

Designing and building the new REEF website has been a tremendous team effort. A very big fish thanks go to Brice Semmens for designing and building the new page, to Michael Coyne of NOAA's Biogeography Program for building the new database administration and reporting programs, and of course, to Ken Marks for getting REEF where we are today with a Web presence and online data reporting and for his continued assistance with the back end of the Website and server! The ongoing survey efforts of thousands of dedicated REEF members are also appreciated, and are the key to our continued success and status as a top-notch community-based monitoring program. We are now receiving stacks of scanforms every week, and this new website and database will undoubtedly serve us well.



# REEF NOTES

## NEW GARDEN EEL DISCOVERED IN THE CARIBBEAN •• REEF DOES IT AGAIN!

In the summer of 1997 REEF member Ken Marks discovered the Yellow Garden Eel, *Heteroconger luteolus*, in 70 feet of water off the east coast of Florida. Prior to his sighting, the species was only known from a partial specimen dredged from the depths of the Gulf of Mexico. Today, thanks to Ken and subsequent sightings by REEF members, it is now known that the Yellow Garden Eel is not at all uncommon in South Florida.

REEF has done it again, finding a second previous unknown species of garden eel in the Caribbean. While surveying in Tobago, Paul Humann noticed a small colony of garden eels in the distance. When he approached to make a positive identification, he was delightfully surprised to find that there is a third garden eel in the Caribbean. This species was noticeably larger than the Yellow or Brown Garden Eel, had a yellowish brown reticulated pattern on its back, white belly, and distinctive dark markings behind the head.

After sighting several more colonies, Paul collaborated with Ned DeLoach who was also on the survey team. They decided to first photograph the eels and then attempt capturing one for scientific identification and examination. The eels were quite wary, disappearing into their holes whenever an observer approached to within 20 feet of its burrow. It required a 105mm telephoto lens to take an acceptable shot. Permission to collect a specimen was granted Dr. Arthur Potts, Director of the Tobago Department of Fisheries. Working with Keith Darwent of Aquamarine Dive, the three divers fashioned a monofilament lasso around an eel's hole and waited. However, to their consternation, the shy eel refused to reappear forcing the collectors to surface empty-handed.

Several hours later they returned and found the eel fully extended and busily picking plankton in the current. A quick pull of the line and a specimen was heading back to the States where it was sent to the National Museum of Natural History at the Smithsonian Institution for identification.

Much to everyone's surprise, the unidentified species turned out to be the Giraffe Snake Eel, *Heteroconger camelopardalis*, previously known only from Ascension Island in the mid-South Atlantic and the Fernando de Noronha Islands

just south of the equator off the coast of Brazil. Finding the species in Tobago is an amazing range extension of over 2,500 miles! Now that REEF members are aware that a third species of garden eel inhabits Caribbean waters, it will be interesting to see if the Giraffe Eel is sighted at other locations.



Giraffe Garden Eel,  
*Heteroconger  
camelopardalis*,  
discovered in Tobago.

## EXOTIC BATFISH GET NEW HOME

On April 29, 2000, staff from the New England Aquarium, Florida Keys National Marine Sanctuary, Dynasty Marine and REEF gathered at Molasses Reef with SCUBA and snorkeling gear in hand. The mission? Collecting batfish! Not the Caribbean odd-shaped bottom dweller, but the exotic Indo-Pacific orbicular batfish, *Platax orbicularis*.

Delighted to add these exotics to their life list, REEF members have reported sightings of the Molasses invaders for years. Although often an exciting find, exotics can have disastrous effects if they turn invasive. Exotic species have the potential to out-compete native species for food and habitat, introduce disease, and alter the habitat. When three batfish were sighted last winter at Molasses instead of the usual two, REEF called FKNMS and the New England Aquarium and began developing a plan.

Holly Martel and staff from the Aquarium along with local marine life collector Forrest Young of Dynasty Marine collected 2 of the 3 batfish. The fish were expertly netted and slowly brought to the surface where they were transported back to shore. To reduce stress, the batfish were held by Dynasty Marine for a week and then shipped to the Aquarium where they were held in quarantine. In July, Holly moved the batfish to an Aquarium exhibit that includes signs about the dangers of Invasive/Exotic Species. The fish are reported to be in good health. As for the third batfish, divers have been calling REEF with reports of seeing him under ledges at Molasses. Another diver called to report a sailfin tang in Islamorada at Marker 24. Please contact the REEF office with exotic species sightings! We will add them to the database in order to keep track of the sightings for the FKNMS and any other interested parties.

# REEF NOTES

## One Fish, Two Fish- REEF's Annual Fish Count

Last June and July, over 300 people attended free fish identification seminars held throughout the country as part of REEF's Great American Fish Count (GAFC). Through public seminars and organized survey dives, this annual event serves to introduce the public to REEF's volunteer fish survey program and provides divers the opportunity to learn more about what they are seeing under the waves. This year, over 20 seminars were taught by local GAFC partners in six US states, and in British Columbia, Canada. Divers then gathered at over 20 dive events during July 1 - 14, 2000, to conduct REEF fish surveys. By participating in the GAFC, it is hoped that divers will get hooked on marine life watching, take up fish surveying as part of their regular diving activities and continue improving our understanding of the marine environment.



GAFC was started by the Channel Islands National Park in 1992, and has subsequently become part of REEF's overall outreach program motivating more divers to make a difference in the marine world. The national scope of the fishcount has led to its incorporation into REEF's partnership with the National Marine Sanctuary Program. Many of the fishcount activities occur within the Program's twelve marine sanctuaries, including the Monterey Bay NMS, the Flower Garden Banks NMS, the Florida Keys NMS, and Gray's Reef NMS. "We realize that we do not have the resources to conduct all the monitoring needed in the Sanctuary program, and we rely on these volunteers to fill in some of the gaps," says Dr. Steve Gittings, Science Coordinator for NOAA's National Marine Sanctuary Program. "We encourage people to get involved in good volunteer monitoring activities such as REEF, and the GAFC is a great introduction."

We would like to thank all of our local partners who taught seminars- John Pitcairn, Hillary Harder (Gumbo Limbo Nature Center), Bill Horn (Florida Fish and Wildlife Conservation Commission), Danielle Dowdy (REEF NW Florida Field Station), Dawn Cline (Key West Dive Society), Kevin Buch (FGBNMS), Judy Wright (Island Dive Center, Georgia), Alex Score (GRNMS), Eric Frasco (Greater LA Council of Divers and West LA Sports Chalet Dive Club), Dr. Roy Houston, Linda Blanchard (Ocean-Institute, Dana Point), Leon Garden (Kelp Klimbers and Monterey Bay Sea Otters Dive Clubs), Karen Grimmer (MBNMS), Ren Hinks, Francis Gilbert (Sonoran Sea Aquarium), Dana Africa, Kurt Steinbach (Port Townsend Low Tide Festival, Pt. Townsend, WA), Greg Hiatt (Poulsbo Marine Science Center, Poulsbo, WA), and Susan Francis (Living Oceans Society). In addition to the affiliations listed above, thanks to the following centers and dive shops for hosting seminars- John Pennekamp Coral State Park, Florida Bay Aquarium, Organization for Artificial Reefs Office (Tallahassee), Scubatech (Destin), Dive Pros (Pensacola), Rinn Boats (Texas), University of Georgia Marine Extension Aquarium, Cabrillo Aquarium (San Pedro, CA), Monterey Bay Aquarium, Pacific Grove Natural History Museum, The Dive Shop (Tucson, AZ). Support for the fishcount has been provided by the Curtis & Edith Munson Foundation, the National Fish & Wildlife Foundation and PADI Project Aware.

REEF's Laddie Akins reviews fish with Kevin Wadlow, Key Largo



REEF's Laddie Akins reviews fish with Kevin Wadlow, Key Largo



GAFC Divers - Key Largo

# SCIENCE UPDATE

## Marine Protected Area News

### THE TORTUGAS ECOLOGICAL RESERVE

A Critical New Marine Protected Area Ninety miles west of Key West lies an area with some of the most well-developed coral reef formations and tropical fishery resources in North America: the Dry Tortugas. Thanks to ten years of effort by a variety of management agencies, fishermen groups, environmental organizations, and scientists, two of the most important areas of the Tortugas are in the process of being set aside as full no-take reserves. In total, the area of no-take reserves in the Florida Keys National Marine Sanctuary will be increased ten-fold! Protecting 186 square nautical miles of coral reefs, seagrass beds, and other diverse and productive habitats, the reserve includes two parts. Tortugas North covers much of Tortugas Bank and the famed Sherwood Forest and Tortugas South encompasses Riley's Hump, an area known to be critical spawning habitat for mutton snapper and other fishes. The proposed reserve is undoubtedly one of the United States' most significant and promising marine conservation initiatives.

#### **What's next?**

Since the proposed area is under the jurisdiction of four different state and federal agencies (Gulf of Mexico Fishery Management Council, State of Florida, Florida Keys National Marine Sanctuary, and the Dry Tortugas National Park), the final designation will be complicated. To date, the two-part reserve design has been unanimously endorsed by the Tortugas 2000 Working Group and the Sanctuary Advisory Council and was approved by the Gulf of Mexico Fishery Management Council in July. There is still plenty of opportunity for public input (see below).

#### **Will it really be complete no-take?**

Areas under Gulf Council jurisdiction, which include all of Tortugas South and the spawning sites at Riley's Hump, will be off limits after a last-minute motion to allow trolling was rejected by the Council in July. Other agencies are making decisions on the degree of no-take within their jurisdictions later in the year.

#### **Making your voice heard**

The Florida Fish and Wildlife Conservation Commission will vote on the proposed plan at a meeting during the winter of 2000/2001.

Comments and questions can be directed to:

Commissioner Julie Morris, Chair, Florida Fish and Wildlife Conservation Commission

620 S. Meridian St. Tallahassee, Florida 32399-1600.

Florida Governor Jeb Bush and the Cabinet will vote on the proposed reserve in early 2001.

#### **For more information, visit the following websites:**

Florida Keys National Marine Sanctuary: [www.fknms.noaa.nos.gov/tortugas](http://www.fknms.noaa.nos.gov/tortugas)

Dry Tortugas National Park: [www.nps.gov/drto/planning](http://www.nps.gov/drto/planning)

Gulf of Mexico FMC: [www.gulfcouncil.org](http://www.gulfcouncil.org)

Environmental Defense: [www.edf.org/programs/oceans/tortugas/reserve.html](http://www.edf.org/programs/oceans/tortugas/reserve.html)



# REEF NOTES

## Jewfish Population Study

Sightings of jewfish, *Epinephelus itajara*, during REEF surveys in Florida are currently being used in a population study by the National Marine Fisheries Service in collaboration with Florida State University and the Florida Fish and Wildlife Conservation Commission.



Jewfish are one of the largest fishes found on coral reefs, growing up to 8 feet long and weighing up to 700 pounds! (The International Game Fish Association Florida saltwater record is 680 pounds, caught May 20, 1961, off Fernandina Beach, Florida.) Jewfish live for about 40 years and grow very slowly. Since 1990, these giants have been protected from harvest in Florida after reaching dangerously low numbers. Today, the status of the Florida jewfish population appears to be on the rise although fishery scientists have had difficulty quantifying the trends. Traditional methods for determining the health and status of a fishery rely heavily on harvest rates. Since such data are no longer available for jewfish because of their no-take status, REEF surveys are providing an invaluable source of information on their distribution and frequency. REEF survey data are proving to be extremely useful by not only providing the abundance but also the sighting location (latitude & longitude), temperature, reef type and other variables being used to determine the status of the jewfish stock. These data are being used by the National Marine Fisheries Service to produce GIS maps that show jewfish distribution over time and its recovery up the Florida peninsula.

With over 300 confirmed sightings since 1994, REEF's database represents over half of the jewfish data available to scientists, with other data coming from researchers and volunteer teams throughout the state.

For more information about this on-going project, contact Bill Horn with the FWCC Artificial Reef Program at (850) 922-4340 or by e-mail at hornb@gfc.state.fl.us. If you do happen to sight a jewfish on your next dive or snorkel, please call the Florida Marine Research Institute Tagging Hotline at 1-800-367-4461. If the fish is tagged, please take note of the number or bead pattern.

## The California Sheephead

by Ladan Mohajerani

Fish biologist Dr. Milton Love once wrote: "Consider for a moment if most humans changed sex when they were 30 years old. Sexism would be less common, as all of us would understand what both sexes experience." The California Sheephead, *Semicossyphus pulcher*, resides in the kelp forests off the coast of California and has been blessed with this privilege.

Sheephead are members of the wrasse family, a family of bony fish that are known for their peculiar reproductive behavior. These fish are protogynous sequential hermaphrodites meaning that they are born sexually undifferentiated with immature gonads. As Sheephead grow in size, their bright red coloration fades to pink and their gonads mature to female reproductive organs. From four to eight years of age, these fish may change sex again, namely from female to male. Accompanying this sex change is further color change: their heads turn black, their midriff red, and their chin white (the characteristic that gives the animal its name).

Lucky males are found with a harem of several females. In this type of social hierarchy being a large male has its advantages. Large males can defend larger breeding and feeding territories for their harem and can inseminate several eggs, thereby increasing their reproductive output. Sheephead are fished both commercially and for sport. Since sex reversal in this species seems to be age and size dependent, the over fishing of larger sheephead, i.e. males, could have a significant effect on the sex ratio of these fishes, potentially leading to a massive population decline.

A decline in Sheephead population could lead to cascading effects in other trophic levels. These fish feed on hard-shelled invertebrates, such as sea urchins, which in turn feed on kelp. Some scientists speculate that recent net declines of kelp off the coast of southern California can be attributed to declines in invertebrate predators.



# REEF NOTES

## Product Review: ReefNet CD-ROM

Who says you need to live in the Caribbean? To know the Caribbean? Hot off the Canadian press is a new CD-ROM by ReefNet Software that brings fish identification and learning to a new level. Fishes of the Caribbean and Adjacent Waters is truly an amazing compilation of images and programming by a family of fish enthusiasts. Chris, Any and Les Wilk from Ontario, Canada, have teamed up to produce your next best Christmas gift. The CD includes more than 1400 images of over 500 species of reef fish. It also contains

more than 200 video clips of the fish in action, documenting unique behaviors and habitats to aid identifications. One of the most interesting features is the slide show program. This function allows the user to designate any combination of species to include in a presentation. The feature can be extremely useful for practicing your identification of select species. The CD is available from REEF (item number CDF2) or directly from ReefNet software at [info@reefnet.on.ca](mailto:info@reefnet.on.ca).

### RAISING THE STANDARD FOR FISH ID SOFTWARE!

#### Fishes of the Caribbean and Adjacent Waters

This interactive CD-ROM from ReefNet covers 500 fish species spanning 92 families, from Bermuda to Brazil.

**Its many features include:**

- 400 pages of detailed scientific text
- Over 1600 photos and video clips
- Audio pronunciations of scientific names
- An illustrated glossary of scientific terms
- A flexible search engine with over 50 options (shape, size, markings, behaviour, anatomy, colour, etc.)
- A custom slide show designer and player
- An integrated sightings log

**"A highly impressive new entry in the field of fish-watching aids. Comprehensive, informative, meticulous in its detail, and fun to use." -- Dr. John E. Randall**

Animated sketches accompany every description

Packed with over 1500 photos and videos

**ReefNet** Mention this ad and ReefNet will donate 20% of your purchase price to R.E.E.F.  
1-800-819-REEF or 905-608-9373 [WWW.REEFNET.ON.CA](http://WWW.REEFNET.ON.CA)

## GO WITH HIGH IQ (fish IQ, that is) DIVE GUIDES

During REEF's first Tobago field survey, the team's two dive masters, Al Kerr and Kirk Spencer, showed a keen interest in fish watching. Always ready to "hook" another surveyor, the team's leader Paul Humann gave the young men a crash course in fish identification and the roving diver survey technique. Al and Kirk worked hard to improve their skills, studying in the evenings and learning from team members during the day. By week's end the enthusiastic dive masters were well on their way to becoming knowledgeable fish watchers and accomplished surveyors.

REEF would like to encourage all dive masters to follow the example of Al and Kirk, and become dive "guides" rather than dive "masters." Dive guides with a "high fish IQ" enhance the experience of all divers. For REEF members it is especially helpful to dive with someone who can point out species unique to the area. For example, Al and Kirk can now show divers beautiful little Cherubfish by the dozens, not to mention the rare Flameback Angelfish, Black Brotula and the Giraffe Snake Eel, presently known only from Tobago in the Caribbean (see article).



Paul Humann teaching divemasters, Al and Kirk

You can dive with Al and Kirk by  
diving Tobago with Aquamarine Dive  
Phone 868-639-4416  
e-mail [AMDTOBAGO@trinadad.net](mailto:AMDTOBAGO@trinadad.net)



# THANK YOU TOO

## A Special Thanks To:

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Richard Canter of Lady Cyana ,Key Largo, Florida for certifying REEF staff in Nitrox, John Stuart for Power Point Presentation of PADI Project Aware course (TWA), Lady Cyana, Island Ventures, and Bill Sabat for donating boat space to REEF staff and interns, labelers of newsletter mailings (Joe Thomas, Kendall Bailey, Michael Salton, Ida Staunstrup, Jessica Whaylen, Audrey and Ken Smith, Hilary Harder & Lauren Penner, Ivy Kelly, Brenda Altmeier, Steve Pollock, Angie Poulter, and Ben Kenner), Lauren Penner for networking REEF's office computers, and help at OceanFest booth (Denise Mizell, Tom Isgar, Lauren Penner, Clint Whitaker, and Carol Davies).

## Oceanfest Silent Auction Thanks!

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The following members of the dive industry contributed items to the Silent Auction at Oceanfest raising more than \$3,000.00 to support REEF! Thank you for your generous support! Also a big thanks to Denise Mizell for organizing REEF's Silent Auction.

Tom Isgar  
Cayman Islands Department of Tourism  
Neal Watson Undersea Adventures  
Scuba Adventures  
New World Publications  
The Hagstrom Collection  
Mako Lady Rnterprises  
Seavision  
DAN  
Pro-Dive

Oceanfest  
Dive Training Magazine  
Rodale's Scuba Diving  
Magazine  
Paul Humann  
Gotta Go Gear  
Underwater Photo Repair Dot  
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JBL Enterprises  
Gorilla Diver  
Sea-Lite Diving Lights  
Suntease UV Sunwear  
Ocean Management Systems  
Prescription Dive Masks  
Peter Skop Industries

## Wishlist

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Nautical charts, office furniture (desks, chairs, filing cabinets), and digital video .

## WE COUNT ON YOU!

We are always proud to tell you about REEF, your "do something" organization; all its accomplishments, its strides with current projects and its exciting plans for the future.

What we don't like to say is how difficult it is for REEF to accomplish so much with so little.

REEF staff, volunteers and partners give 100% to the mission of marine conservation and you would think that, with the long list of accomplishments you regularly read about in this newsletter, REEF receives significant financial support through its membership: The fact is, that out of the more than 17,000 REEF members, only a small percentage actually donate to REEF.

REEF has a lot on its plate: On-going fish field surveys, an intern program, data management, volunteer coordination, partner collaborations, sanctuary field work, and more destinations demanding a REEF presence. If you have ever been to the REEF office you will see that REEF is bursting at the seams. You can do something about it!

You will be receiving a letter from us in November that expands on this important note, and how your monetary support of REEF will be wisely invested in marine conservation.

*Please contribute.  
REEF is counting on you!*

# REEF FIELD SURVEYS

REEF Field Surveys are week-long projects for divers/snorkelers who are interested in learning about reef fish identification and behavior, while at the same time gathering environmentally important information on local species. The first fish identification seminar will be held on the day of arrival for two-three hours. Diving begins the following morning. Most dive packages include at least 5 days of 2 tank dives. Underwater fish surveys will be conducted on each dive. Seminars will be conducted each afternoon/evening to review fish, learn new fish species, and fill out survey forms.

This year, over 130 REEF members participated in a REEF Field Survey. Destinations included Walker's Cay, Dominica, Tobago, Little Cayman, Grand Turk, Flower Gardens, St. John, Bonaire, and Cozumel.

## REEF Field Surveys 2001

March 18-25	Grand Cayman (East End) led by Laddie Akins & David Taylor
April 14-20	Southern Bahamas on Cat Ppalu led by Ned DeLoach
April 29-May 5	Glover's Reef, Belize
June 16-23	Utila at Utila Lodge
July 14-21	Little Cayman at Southern Cross Club
August 7-12	Flower Gardens on M/V Spree (coral spawning)
Aug 31-Sept 4	Channel Islands, California
September 16-23	Baja on M/V Don Jose
September 22-29	Bermuda at Bermuda Biological Station for Research
November 3-10	Curacao at Ocean Encounters
December 1-8	St. Vincent at Dive St. Vincent



## REEF DISCOVERY TOUR 2001 -- A LEARNING EXPERIENCE

July 28-August 4 Bonaire at Buddy Dive led by Paul Humann

**REEF Discovery Tour is a new program for 2001.** The week is for divers/snorkelers who are interested in learning more about marine life and seeing more on their dives/snorkels. Our first Discovery Tour is being led by Paul Humann, the man who wrote the books! Several short slide programs will be scheduled during the week to teach and discuss reef fish and creature identification and behavior to enhance the participants' knowledge and enjoyment of diving. Pre and post dive briefings will highlight special creatures and behaviors to look for.

For more information on these trips,



## REEF's Summer Interns Dive In

In May, Michael Saltan arrived in Miami from St Lucia via the United Kingdom. Michael received his undergraduate degree in marine biology and graduate degree in environmental biology from the University of Wales, Swansea. While with REEF, Michael's primary responsibility was organizing the Great American Fish Count. With only a short two months until the event (July 1-14), Michael worked on the "fast-track" to organize this year's seminar and dive events. (See GAFC summary page XX). He also had to assemble over 200 starter kits that were mailed to various dive operators and seminar leaders! Joining REEF staff in Lauderdale-By-The-Sea, Michael manned the booth at OceanFest in June and before returning to the UK in August, worked with Coral Shores High School, Key Largo, to monitor artificial reefballs placed off Key Largo. Michael is now working as the Ecological Assessments Program Assistant in Aruba. Thanks Michael and Best Wishes!

Fellow University of Wales student Ida Kelp Staunstrup joined REEF in July. Originally from Denmark, Ida is studying for a Bachelor of Science in marine biology. In the REEF office, Ida helped with membership mailings, REEF orders, and incoming scanforms. Outside the REEF office, she was just as busy! Ida was lucky enough to join Laura Engleby and the Dolphin Ecology Project when the BBC filmed the unique mudring-feeding of the Florida Bay dolphins for a new nature series, Blue Planet. In conjunction with Brice Semmens, Ida helped gather data on the homerange movement of parrotfish. Using a GPS logger, she tracked the movement and behavior of redband parrotfish at shallow, nearshore reefs. REEF will provide updates of their research in future newsletters. Ida also worked with Erich Mueller from the Mote Marine Laboratory and Coral Shores High School transplanting corals onto reef balls. Ida returned to the UK on September 14th. Thanks Ida and Best Wishes!

# MORE UPDATES

## TRANSBOUNDARY RESERVE IN THE PACIFIC NORTHWEST

As the Tortugas 2000 project has shown, creating Marine Protected Areas is a difficult and lengthy process. It involves coordinating science with managing agencies and the interest of a variety of stakeholders. But think how complicated things would get if you threw in multiple nations! Transboundary ecosystems have generally received piecemeal protection at most, with only rare efforts by planners to coordinate conservation efforts across political lines.

For years, biologists have suggested that in order to maintain and restore biodiversity, coherent systems of protected areas must exist. Currently, there are several initiatives to create transboundary reserves. In REEF's Pacific region, there is one of particular interest between British Columbia (Canada) and Washington State (US) that involves a multi-stakeholder group of about 20 citizen organizations. Led by the Georgia Strait Alliance and the People for Puget Sound, this initiative includes REEF partners Living Oceans Society and the Washington Scuba Alliance. The group is pushing for a locally governed, integrated network of MPAs, and has proposed the creation of an Orca Pass International Stewardship Area. The area of interest is in Boundary Pass (between the southern Gulf Islands in Canada and the US San Juan Islands). Currently the groups are working to define what forms of protection are needed within the area, and to build a constructive dialogue with First Nations, government agencies, resource users, and other groups towards effective protection efforts.

To learn more about the effort, visit [www.georgiastrait.org](http://www.georgiastrait.org) or [www.pugetsound.org](http://www.pugetsound.org), or call Howard Breen at 250-247-7467. If you are interested in reading more MPA news, visit [www.mpanews.org](http://www.mpanews.org).

## A VIEW FROM THE KELP

Channel Islands Sanctuary Teams with REEF  
In June, an expedition team composed of REEF Advanced Assessment Team members from around the country converged on the southern California coast to participate in a five-day project with the Channel Islands National Marine Sanctuary (CINMS).

Dr. Christy Semmens, REEF Scientific Coordinator, led a group of 9 REEF divers from as far away as Washington, Louisiana, Ohio and Florida in survey dives at 8 sites in the Channel Islands. As part of the expedition, CINMS staff and the REEF team attended fish identification seminars and presentations on how survey data are being used to document distributions and population changes.

During three days of diving, the team collected 47 surveys on **Anacapa and Santa Cruz Islands**. A total of 44 species were documented during the project, including 3 species new to the Channel Islands REEF fish survey records. Species of note included Sarcastic and Yellowfin Fringeheads, Orangethroated Pikeblenny, Ling Cod, and numerous Rockfish.

The revised CINMS management plan will include the implementation of new monitoring plans and programs such as the REEF survey project. For more information on surveys in the Channel Islands or the CINMS contact them at (805) 966-7107 or visit [www.cinms.nos.noaa.gov](http://www.cinms.nos.noaa.gov).



sarcastic fringehead

# THANK YOU

## BRONZE SUSTAINERS

(\$100.00 or more)

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MARK AIREY  
MARY ALEXANDER  
STEVE AMOS  
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CLINT WHITAKER  
JOHN PITCAIRN

# SURVEY NUMBERS

## TWA

(Tropical Western Atlantic)

### Over 100

Laddie Akins (599)  
Linda Schillinger (499)  
Joe Thomas (440)  
Deena Wells (439)  
Emily Schmitt Lavin (300)  
John Pitcairn (300)  
Jean Kirkpatrick (299)  
Christy Semmens (284)  
Leslie Whaylen (263)  
Cathy Coughlin (243)  
Clive Petrovic (234)  
Edwin Steiner (223)  
Sheryl Shea (211)  
Monty Doyle (198)  
Ann Knollenberg (190)  
Elaine Morden (189)  
Brice Semmens (178)  
Ken Deaver (167)  
Ken Marks (158)  
Patricia Ayers (152)  
Julie Overing (149)  
Carol Lorenz (135)  
Jerry Ligon (134)  
David Preston (134)  
Bruce Purdy (132)  
Joyce Schulke (127)  
Darlene Gehringer (126)  
Doug Rorex (119)  
Will Ruggles (118)  
Douglass Rankin (117)  
Barbara Modafari (114)  
Tom Isgar (112)  
Pamela Bezuidehout (107)  
Cindy Snell (105)  
Peter Leahy (105)  
Bob Bishop (104)

### Over 50

Carol Reichert (98)  
Betsy Saunders (97)  
Randy Keil (91)  
James Brooke (91)  
Clint Whitaker (89)  
Don Buck (87)  
Shelley Tyre (85)  
Jim Modafari (84)  
Jim Morabito (84)  
Denise Mizell (82)  
Kirsten Bassion (80)  
Pamela Cefaratti (80)  
Jean Gasen (77)  
Chris Koepfer (76)  
Kathleen Scott (74)  
Connie Bishop (74)  
Greg Bunch (73)  
Tony Sebastian (70)  
Currier Randall (70)  
Douglas Harder (69)  
Paul Humann (65)  
Hilary Harder (65)  
Dave Downs (64)  
Robyn Osborn (63)  
Monica Vega (62)  
Janet Earnshaw (62)  
Ditte Preker (60)  
Karen Garcia (60)  
Edgar Tomei (60)  
Robert Antonelli (59)  
Marjorie Nelson (59)  
Charles (bob) Hersey (58)  
Richard Hitt (58)  
Margaret Cowin (58)  
Gail Tomei (58)  
Anthony Kajfez (56)  
Brenda Hitt (56)  
Connie Dolan (55)  
Carol Davies (54)  
Tracy Siani (53)  
David Mulvey (53)  
Chuck Jirka (52)  
Noreen Downs (52)  
Glen Thiel (51)  
Jonathon Tromm (51)  
Dr. Stephen Gittings (50)  
Cheri Arnold (50)

### Over 25

Robert Winters (49)  
Mark Kaehler (49)  
Jonathan Edwards (48)  
Jessica Armacost (48)  
Donella Wilson (47)  
Neil Ericsson (47)  
Todd Aikins (46)  
Sara Thomas (46)  
Cristi Korbeck (44)  
Joseph Froelich (44)  
Kitty Philips (44)  
Jane Rorex (43)  
Anna Deloach (43)  
Walter Briney (43)  
Peter Rennemann (43)  
Karen Florini (43)  
Eric Riesch (42)  
Mike Chambers (39)  
Shawn Edwards (38)  
Denny Lutz (37)  
Donna Gerrard (37)  
Michael Phelan (37)  
John Kelly (37)  
Corinne Halberg (37)  
Dave Grenda (37)  
Scott Fowler (36)  
Ed Gerrard (36)  
Rick Halpern (36)  
Wade Bevier (36)  
Robert Draper (36)  
Muns Farestad (34)  
Mark Springer (34)  
Lauren Penner (34)  
Lynn Hubert (34)  
Emma Hickerson (34)  
Jeana Hodges (34)  
Melissa Keyes (32)  
Eddie Gerrard (32)  
Robert Burnett (32)  
Joseph Thomas (31)  
Dennis Schneider (31)  
Jose Kirchner (31)  
Robert Schauer (31)  
Kathie Comerford (31)  
Arnold Walker (31)  
John Stuart (31)

Steve Ganon (30)  
AnnOutlaw (30)  
Katia Pronzati (30)  
Mark Bailey (29)  
Gary Lenning (29)  
Van Duncan (29)  
Steve Boutelle (28)  
Cathy Springer (28)  
Bob Bonanno (28)  
Kathy Aguilar (28)  
Lorraine Sommer (28)  
Sascha Steiner (28)  
Barbara Kirchner (28)  
Ronald Moss (28)  
Patricia Pachuta (28)  
Roxanne Chavanne (27)  
Cassandra Warn (27)  
Kathy Bonanno (27)  
Kathleen Gunderson (27)  
Keith Phillips (27)  
Christy Sims (27)  
Pete Wyman (26)  
Woody Brooks (26)  
Lillian Kenney (26)  
Rebekah Moore (26)  
Claudia Campos (26)  
Matthew S. Kendall (26)  
Jeffrey Nehms (26)  
Belal Hansrod (26)  
Lana Smithson (26)  
William Horn (26)  
Jessica Lorek (25)  
Sharon Stockholm (25)  
Roger Stockholm (25)  
Kathleen Wean (25)  
Sanford Robbins M.d. (25)

## Pacific

### Over 100

Rachid Feretti (118)

### Over 50

John Williams (52)

### Over 25

Kirby Johnson (46)  
Sarah Tamblyn (29)  
Matthew Dowell (27)



Dominica Group



Walkers Group



Little Cayman Group

# Books and CD ROMs

## Surveying Coral Reef Fishes - \$12

A manual for data collection, processing and interpretation of fish survey information for the tropical northwestern Atlantic - a useful tool for any volunteer, this manual assists both the amateur and professional in contributing to the study of marine life.

Code BKA

## Reef Fish Identification Book - \$39.95

Florida, Caribbean and Bahamas, 2nd edition, a fish ID book designed for divers, includes 670 photographs of 494 species.

Code BKB

## Reef Creature Identification Book - \$37.95

Florida, Caribbean and Bahamas - 478 color photographs illustrate the most common marine invertebrates sighted by divers.

Code BKC

## Reef Coral Identification Book - \$32.95

Florida, Caribbean and Bahamas - 375 color photographs will help you sort a stony coral from a gorgonian. Also includes 100 color photos of marine algae.

Code BKD

## Snorkeling Guide to Marine Life - \$32.95

Florida, Caribbean and Bahamas - 280 color photos illustrate marine life seen in 15 ft. or less of water including corals, fish and invertebrates.

Code BKE

## \*NEW\* Reef Fish Behavior Book - \$39.95

Florida, Caribbean and Bahamas, has 475 marine life photos, many capturing spectacular fish behaviors never before documented. Chapters, including reproduction, life cycles, feeding, colors, camouflage and many more, help divers learn where and when to observe many of the most dramatic behaviors.

Code BKF

## Reef Fish Identification Galapagos - \$34.95

A comprehensive fish identification guide for the Galapagos Islands - the world's most spectacular natural aquarium. 260 beautiful color plates display the famous archipelago's fabulous fish life. This guide can also be used for Gulf of California divers.

Code BKG

## Coastal Fish Identification - \$32.95

California to Alaska - a comprehensive fish identification guide for the West Coast of North America. Over 250 colorful photos.

Code BKH

## \*NEW\* "In-a-Pocket" Guides - \$10

These new waterproof guides are a companion to Reef Fish Identification and fit right into your BC pocket! Contains over 100 color photos.

"Fish-In-a-Pocket" (Code FIP) and "Creature-In-a-Pocket" (Code CIP) available.

## Reef Fish Identification CD-ROM - \$39.95

The ultimate fish ID learning tool with more than 1,600 images, interactive fish ID learning games, scientific pronunciation, virtual dives, fish finder, log book and more.

Code CDF

## ReefNet Fish CD-ROM - \$50.00

(see article on page 6)



# Survey Materials

Get ready to count fish on your dive vacation!

## REEF Starter Kit - \$25

The basic kit for all fish-watchers. Contains REEF Underwater slate, waterproof fish ID card, underwater Fish-in-a-Pocket booklet, BC Tag, 1 waterproof log sheet and 2 REEF Scanforms  
Code SKC

Available also for Pacific area (without Fish-in-a-Pocket) - \$15  
Code SKP

Tropical Eastern Pacific (without Fish-in-a-Pocket) - \$15  
Code SKP

## Survey Slate and Fish ID Card - \$10.95

Yellow fish ID slate has 60 spaces to list fish sightings and blank profiles to sketch "mystery fish". Includes attachable pencil and waterproof fish ID card with 30 photos of commonly sighted fish.  
Code SL

## Underwater Paper - \$0.60

One sheet of double-sided waterproof paper - good for 2 surveys.  
Code UWP



# OTHER REEF GEAR

## REEF T Shirts - \$15

100% cotton T-shirt displaying the REEF logo on the back, underscored by "We Speak Fish". Sizes: M, L, XL  
Code CLT

## \*NEW\* REEF Golf Shirts - \$35

100% heavyweight cotton pique short sleeved dark teal blue with REEF logo embroidered on front. Sizes: M, L, XL  
Code CLG

## \*NEW\* REEF Caps - \$15

Six panel, 100% cotton deluxe pigment-dyed cap with embroidered REEF logo on front and "We Speak Fish" in semicircle over back opening. Available in 3 color combinations: Forest crown with Sand visor, Khaki crown with Forest visor, Khaki crown with Navy visor. Please specify color choice when ordering. One size fits all.  
Code CLC

## REEF Embossed License Plate - \$10

Custom license plate displaying colorful REEF logo.  
Code LP

## Reef Creature/Coral Identification CD-ROM - \$39.95

Learn to identify more than 500 reef creatures and corals as well as pronounce their names! Interactive learning games and more than 2,300 spectacular images add to the fun of this long-awaited CD-ROM.  
Code CDC

## ReefNet Fishes of the Caribbean and Adjacent Waters - \$50.00

More than 200 video clips, 1400 photographs, descriptions of nearly 500 species, and a customizable slide show.  
Code CDF2



### Order Information

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I want to help REEF with its 2000 urgent coral reef preservation program! Please put my tax-deductible contribution to immediate use to extend your fine program to more areas to save the reefs we love.

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